

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Wireless Telecommunications Bureau)	CC Docket No. 02-46
Seeks Comment on Report on)	
Technical and Operational Wireless)	
E911 Issues)	
)	

COMMENTS OF NEXTEL COMMUNICATIONS, INC.

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November 15, 2002

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COMMENTS OF NEXTEL COMMUNICATIONS, INC.

Pursuant to the October 16, 2002 Public Notice of the Federal Communications Commission (“Commission” or “FCC”),¹ Nextel Communications, Inc. (“Nextel”) submits the following comments on “A Report on Technical and Operational Issues Impacting The Provision of Wireless Enhanced 911 Services,” by Dale N. Hatfield.² Nextel commends the FCC for commissioning this study to evaluate and address critical issues impacting the widespread deployment of Phase II service and Mr. Hatfield for his objective research and insightful recommendations.

I. INTRODUCTION

On March 5, 2002 the Commission released a Public Notice outlining the details of an inquiry by Dale N. Hatfield “to obtain an expert, informed, unbiased assessment of the technical and operational issues that affect wireless E911 deployment...including obstacles to deployment

¹ Public Notice, “Wireless Telecommunications Bureau Seeks Comment on Report on Technical and Operational Wireless E911 Issues,” WT Docket No. 02-46, DA 02-2666, released October 16, 2002.

² “A Report on Technical and Operational Issues Impacting the Provision of Wireless Enhanced 911 Services,” Prepared for the Federal Communications Commission by Dale N. Hatfield (hereinafter, the “Hatfield Report” or “Report”).

and steps that might be taken to overcome or minimize them.”³ On October 16, 2002 the Commission released the Hatfield Report, which discussed the history and status of E911, Mr. Hatfield’s principal findings and specific recommendations, and ancillary issues affecting successful E911 deployment.

Nextel concurs with many of the Report’s conclusions, particularly those related to (1) the necessity for a more adaptable regulatory approach, (2) the complexities of deployment, and (3) the need for uniform and consistent technical and operational standards among all stakeholders including wireless carriers, local exchange carriers (“LECs”), third party vendors and public safety answering points (“PSAPs”). Accordingly, Nextel urges the Commission to take appropriate action to resolve these issues and facilitate a more cooperative approach to Phase II E911 deployment.

II. BACKGROUND

Nextel has been actively engaged in wireless E911 efforts since the inception of CC Docket No. 94-102, the Commission’s wireless E911 proceeding. Nextel has successfully deployed Phase I E911 with hundreds of PSAPs and is beginning to launch Phase II E911 in many areas. After working for years with its sole technology vendor, Motorola Inc. (“Motorola”), and commencing research and development prior to the Commission granting Nextel’s Phase II E911 Waiver Request,⁴ Nextel has now deployed an A-GPS capability in its integrated digital enhanced network (“iDEN”) technology. Launching this complicated technology to first calculate, and then deliver, location information from an iDEN handset to a

³ Public Notice, “Wireless Bureau Announces Details of Inquiry on Technical and Operational Wireless E911 Issues,” DA 02-523, rel. March 5, 2002 (hereinafter, the “Public Notice”), p. 2. *See also* News Release, “FCC Announces Dale Hatfield to Lead Inquiry of Technical and Operational Issues Affecting Deployment of Wireless Enhanced 911 Services,” rel. Nov. 20, 2001.

⁴ *Nextel Communications, Inc. and Nextel Partners, Inc. Joint Report on Phase II Location Technology Implementation and Request for Waiver*, filed November 9, 2000 in CC Docket No. 94-102.

PSAP, particularly in the compressed timeline demanded by Nextel's Phase II Waiver Order,⁵ required unprecedented efforts and coordination among numerous entities.

On October 1, 2002 Nextel achieved its first Phase II implementation benchmark when it began selling and activating the i88s, its first A-GPS capable handset. Also on this date Nextel deployed its first Phase II PSAP in York County, Virginia and subsequently deployed Phase II service in October 2002 with PSAPs in St. Clair County, Illinois; Hampton, Virginia; and Bond County, Illinois. During these deployments, as well as on-going deployments, Nextel is experiencing extensive end-to-end connectivity problems primarily related to trunking between the LEC's regional automatic location identification ("ALI") database and the PSAP, the configuration of the LEC's selective routers and ALI databases, and the interface between Intrado's wireless national ALI ("WNALI") and the LEC's infrastructure.⁶ These hurdles, which were not related to the readiness of Nextel's network or its ability to accurately locate an A-GPS iDEN handset, involved the actions of third parties outside of Nextel's control and inserted added delay into an already complex deployment process.

As Nextel works to aggressively deploy additional PSAPs, end-to-end connectivity issues involving the technical and operational complexities described by Mr. Hatfield continue to create further delays.⁷ Because of variations in equipment and technology as well as a lack of uniform

⁵ *In the Matter of Revision of the Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling systems, Wireless E911 Phase II Implementation Plan of Nextel Communications, Inc.*, Order, CC Docket No. 94-102, FCC 01-295, released October 12, 2001 ("Nextel Waiver Order").

⁶ See *Nextel Communications, Inc. Phase I and Phase II E911 Quarterly Report*, CC Docket No. 94-102 (Nov. 1, 2002) ("Nextel's November 2002 Report") at pp. 5-13, for a complete discussion about end-to-end connectivity problems Nextel encountered during its Phase II deployments.

⁷ For example, in October 2002 Nextel commenced Phase II deployment with Greater Harris County, Texas only to learn later that proper trunking was not installed between the LEC's ALI database and the PSAP. Deployment could not proceed until proper trunking was in place; consequently, several weeks' delay resulted.

configuration standards, deployment is not a “plug and play” process.⁸ Nextel must identify and solve end-to-end connectivity issues on an *ad hoc* basis with each deployment and, more importantly, cannot predict when or where these issues will occur.⁹ Resolving these issues on an *ad hoc* basis often requires using “customized solutions” from PSAP-to-PSAP and LEC-to-LEC which involves more time and testing than was predicted or anticipated when the Commission adopted its Phase II rules.¹⁰

A lack of clearly defined PSAP end user requirements often adds an additional layer of complexity and subsequent delay to deployment. As Mr. Hatfield notes, “accommodating...[PSAP requests for special configurations on a special or ‘one off’ basis] could lead to delays in the rollout of Phase II services in other areas.”¹¹ Nextel, for example, has expended substantial resources to accommodate unique PSAP requests, in some instances fulfilling requests by individual PSAPs to deliver or format certain information beyond the standard capabilities of Nextel’s solution, thus delaying deployment for that PSAP as well as any subsequent PSAP in Nextel’s deployment queue. These changes to Nextel’s data delivery

⁸ For example, BellSouth has informed Nextel that it will support the following for Phase II: (1) an emergency services routing key (“ESRK”) with Centralized Automatic Message Accounting (“CAMA”) trunks between Nextel’s switch and the BellSouth selective router, (2) two emergency services routing digits (“ESRD”) per Nextel cell site or sector, or (3) one ESRD per cell site or sector. Of these three options, only one is a possibility for Nextel’s Phase II technology—the single ESRD approach. Adjusting Nextel’s ESRK interconnectivity to support the use of an ESRD will require changes to Nextel’s deployment plans and additional testing, thus resulting in additional integration issues involving Nextel, the LEC and other third parties. Nextel notes that BellSouth’s ESRK solution requires the use of CAMA trunks despite Mr. Hatfield’s finding at pages ii, 4 and 10 of the Hatfield Report that CAMA trunks are “dead-end” technology and that “[t]he limitations of these legacy [CAMA trunk] systems...haunt the rollout of wireless E911 systems.”

⁹ See Nextel’s November 2002 Report at pp. 10-11, for a description of unexpected complications that surfaced in Nextel’s second Phase II deployment in Hampton, Virginia.

¹⁰ See Letter from John R. Melcher, Thera Bradshaw and Evelyn Bailey to Marlene H. Dortch, CC Docket No. 94-102, (September 20, 2002) (“Public Safety Letter”), wherein leading Public Safety leaders recognize “that the definition of readiness evolves and varies according to the peculiarities of individual serving arrangements, configurations and geographies. Not until the work starts will all the variables be identified.”

¹¹ The Hatfield Report at p. 40.

processes also have required Nextel unexpectedly to spend significantly more capital to meet the requirements of a single or limited number of PSAPs.¹²

No single entity is tasked with coordinating or “quarterbacking” the various parties (i.e. wireless carriers, LECs, third party vendors and PSAPs) involved with PSAP deployments and resolving end-to-end connectivity issues. Wireless carriers, as previously noted, are currently the only party which can be penalized for slowed or delayed deployments; therefore, in some instances, Nextel has been forced to step into this coordinator position—taking on responsibilities beyond its role—which frequently diverts its resources from other deployments. The absence of clearly defined end user requirements, as well as the lack of clearly defined roles and responsibilities for all stakeholders, ultimately results in frequent deployment delays for all PSAPs. The Hatfield Report recognizes these problems and proposes useful recommendations, which Nextel discusses herein.

III. DISCUSSION

A. ALL PARTIES MUST WORK COOPERATIVELY WITH A MORE ADAPTABLE REGULATORY APPROACH TO FACILITATE EFFICIENT DEPLOYMENT OF PHASE II E911

Mr. Hatfield states “it is...important to stress that the deployment of wireless E911 services in the United States is an extremely complex matter...[and that] [t]here is complexity in every dimension.”¹³ “Because of the total number of stakeholders involved, the complexity of the inter-relationships among the stakeholders, and the incentives and constraints faced on those

¹² For example, because there were no formal PSAP end-user requirements included in the process for setting Phase II E911 GSM standards, Nextel’s Phase II E911 solution for its GSM-based network infrastructure does not transmit descriptive text information directly to the PSAP. Rather, it transmits all location information as latitude and longitude. During our deployment in York County, Virginia, Nextel learned that some PSAPs wanted Phase I cell site information to be portrayed as descriptive text information rather than latitude/longitude. Thus, to accommodate these PSAPs, Nextel is committing considerable—and unanticipated—resources to fulfill this non-documented, non-standardized PSAP end user requirement.

¹³ The Hatfield Report at p. 18.

stakeholders....” he notes “an unusually high degree of coordination and cooperation among public and private entities will be required.”¹⁴ Nextel concurs with Mr. Hatfield and believes that all stakeholders must work together in good faith to meet the Commission’s mandates. Moreover, Nextel agrees that an adaptable regulatory approach, rather than rigid rules, is necessary to facilitate efficient deployment of Phase II.¹⁵

In particular, Nextel agrees that the Commission must incorporate flexibility into its current E911 rules. For example, Mr. Hatfield notes that the Commission’s handset penetration requirements may unfairly penalize a carrier that has a low churn rate. The fact that customers do not naturally leave the carrier’s system, thus being replaced with customers using new (i.e. A-GPS) handsets, forces an otherwise successful carrier to absorb significant costs to replace older, non-APGS handsets. Restricted capital markets,¹⁶ which did not exist when the Commission adopted its Phase II rules, present added hurdles for wireless carriers incurring enormous costs to comply with those rules.¹⁷ Furthermore, as detailed above, the time required to overcome the then-unknown complexities of Phase II deployment is not adequately recognized by the implementation requirements and timelines in the Commission’s rules.¹⁸

¹⁴ *Id.* at pp. 20-21.

¹⁵ To this end, a cooperative approach was recently proffered by the National Emergency Number Association (“NENA”), the Association of Public-Safety Communications Officials International, Inc. (“APCO”) and the National Association of State Nine One One Administrators (“NASNA”), when they informed the Commission that “[Phase II] implementation will depend more on common-sense accommodations reached in good faith among the parties....” *See* Public Safety Letter, footnote 10 *supra*. They continued, “no rule can overcome the inherent uncertainties in the implementation process.” *Id.* Additionally, Nextel and other wireless carriers are actively participating in the NENA Strategic Wireless Action Team (“S.W.A.T.”) initiative, a voluntary effort to converge various E911 stakeholders to address and resolve hurdles preventing efficient 911 deployments.

¹⁶ *See* the Hatfield Report at p. 19 (“...the situation facing the Nation in the rollout of wireless E911 is further complicated by the current economic stress on the wireless industry and the telecommunications sector more generally.”).

¹⁷ The additional resources Nextel has been forced to expend to deploy PSAPs, coupled with the economic downturn, require that the Commission eliminate the December 31, 2005 95% penetration mandate. Carriers already have absorbed enormous costs to launch Phase II services where PSAPs are ready. It is not in the public interest to exponentially compound carriers’ Phase II compliance costs.

¹⁸ *See* Public Safety Letter, footnote 10 *supra*.

In light of the complexities and realities of Phase II deployment, Nextel suggests that the six-month rule in Section 20.18(d) of the Commission's rules is arbitrary. While initially providing a "jump start" to the Phase I process, it is wholly at odds with today's Phase II reality in which carriers are faced not only with complex end-to-end integrations, but also with a "piling up" of PSAP requests that cannot possibly be deployed simultaneously. Nextel believes the better approach is a rule that imposes on carriers an obligation to work in good faith—with all of the relevant stakeholders—to deploy a requesting PSAP within six months of a request.

B. END-TO-END STANDARDS FOR ALL E911 COMPONENTS ARE NECESSARY TO FACILITATE EFFICIENT AND TIMELY DEPLOYMENT

Nextel believes that end-to-end standards for all stakeholders must be adopted quickly to serve as the foundation on which other critical components, necessary for Phase II deployment, can be structured. Moreover, Nextel advocates the development of standard feature set specifications for each of the various technologies (i.e. GSM, TDMA, CDMA and iDEN) to establish their respective technological capabilities as well as to help manage PSAP expectations about each system's functionalities. Without established end-to-end and feature set standards as a basis for decision-making, coordination of technical and operational issues, development of certification programs, review of LEC and PSAP readiness issues, and accommodation of new requirements and future technologies, are virtually impossible. As Mr. Hatfield notes,

[i]n order for Phase II information to be delivered to the PSAP, interface standards must be agreed upon, upgrades to the Selective Routers, ALI databases, and trunks made, facilities provisioned and tested, and tariff-based and/or contractual business relationships put into place.¹⁹

Mr. Hatfield also acknowledges inherent pitfalls by noting that "[w]ithout standards, the necessary interfaces must be designed and implemented on an *ad hoc* basis defeating the plug

¹⁹ The Hatfield Report at p. 32.

and play notion and making it difficult, costly and time consuming to rollout the [Phase II] service.”²⁰

The current lack of standards for E911 feature set components and their end-to-end connectivity creates a myriad of variables and demands that, in many cases, result in delayed Phase II implementation. For example, questions frequently arise about a wireless carrier’s responsibility to deliver information to a PSAP in special configurations such as a particular screen format, the method in which a wireless carrier routes Phase II calls to a PSAP,²¹ and a wireless carrier’s responsibility to use a technology requested by a LEC or PSAP which deviates from its Phase II solution.²² Moreover, standards are important not only to address immediate E911 issues, but also to create a reasonable, structured approach to accommodate new technologies. Without an established set of standards governing today’s deployments, all stakeholders will be unprepared and unable to evaluate new, future technologies such as Voice Over Internet Protocol when they become widespread.

Nextel urges the Commission to adopt an end-to-end and feature set standards advisory committee to, as Mr. Hatfield suggests, “focus...on voluntary coordination among different activities to help ensure that proper standards are in place to speed to rollout and evolution of wireless E911 services.”²³ Moreover, Nextel believes the Emergency Services Interconnection

²⁰ *Id.* at p. 26. While noting that a “proliferation” of standards can exist for a single interface, Mr. Hatfield also comments that “standards are not only necessary to ensure that network elements can be interconnected at the physical and electrical layer, but that they also interact reliability in terms of data structures and software interactions at the service logic layer.” *Id.* at pp. 26-27. *See also* footnote 8 and accompanying text herein discussing why “plug and play” deployment is not occurring.

²¹ Mr. Hatfield notes that some early adopters are pushing for additional functionalities or capabilities beyond Phase II such as routing by latitude and longitude and warns of delay resulting from additional requirements. *See* The Hatfield Report at p. 40. If PSAPs desire additional capabilities, Nextel believes they must be subject to a standards review process to determine technological feasibility, cost and appropriate delivery timelines.

²² *See, e.g.,* footnote 8 herein discussing the use of ESRD versus ESRK technology.

²³ The Hatfield Report at p. 27. For example, Nextel recommends that PSAPs, through a standards advisory committee, adopt not more than six wireless information delivery formats for PSAP customer premises equipment.

Forum (“ESIF”) could take the lead role in a technical advisory capacity. Nextel reiterates, however, that since all stakeholders have acted on the current rules and regulations, the Commission should not implement new rules at this time that could impact Phase II roll out.

IV. CONCLUSION

For the reasons stated herein, Nextel supports the conclusions of Mr. Hatfield and requests that the Commission seriously consider his recommendations as a means for eliminating the numerous barriers to efficient wireless E911 deployment in the United States and amend its wireless E911 rules as Nextel has discussed herein.

Respectfully submitted,

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A limited number of delivery formats would eliminate the “customized solutions” that Nextel is frequently requested to implement, which frequently add delay to the deployment process. *See* footnote 11 and accompanying text herein discussing the ramifications of a lack of clearly defined PSAP end user requirements.